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Indian Standard
SPECIFICATION FOR TREE PRUNER

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Indian Standard

SPECIFICATION FOR TREE PRUNER

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(*Continued on page* 2)

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Indian Standard

SPECIFICATION FOR TREE PRUNER

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 31 October 1983, after the draft finalized by the Horticultural Equipment Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 The tree pruner is a hand tool used for removing unwanted branches/ twigs of the tree for giving proper frame work and aeration. The tree pruner can conveniently be used to remove the branches/twigs by standing on the ground which are beyond the reach of human hand. The pruner is fixed on the top of handle and the blade is actuated by the rope which returns to the original position with the help of spring. The branch/twig to be cut is held in the curved portion of the pruner and the blade is moved by pulling the rope to cut the branch/twig.

0.3 The figures in the standard are given only as typical illustrations and should not be considered as suggestive of any standard design.

0.4 In preparation of this standard, assistance has been derived from the Central Institute of Agricultural Engineering (ICAR), Bhopal and Passi Mechanical Works, Ludhiana.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2 - 1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard specifies material, dimensional and other requirements for tree pruner.

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*Rules for rounding off numerical values (*revised*).

2. NOMENCLATURE

2.1 The nomenclature of various parts of the tree pruner shall be as given in Fig. 1.

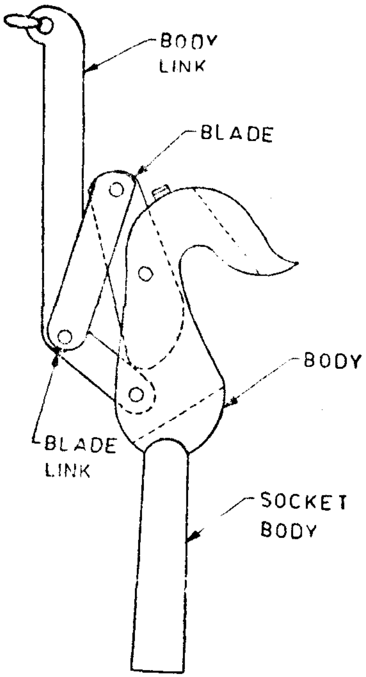

FIG. 1 TREE PRUNER

3. MATERIALS

3.1 Blade — The blade of the tree pruner shall be manufactured from carbon steel or alloy steel.

3.1.1 The chemical composition of the carbon steel shall be as follows:

a) Carbon 0·7 to 0·9 percent;
b) Silicon 0·1 to 0·4 percent;
c) Manganese 0·5 to 1·0 percent;
d) Sulphur 0·05 percent, *Max*; and
e) Phosphorus 0·05 percent; *Max*.

3.1.1.1 Some of the typical carbon steels that may be used are 75C6, 80C6 and 85C6. *see* IS : 1570 (Part 2)-1979*

3.1.2 Alloy steel preferable conforming to the grade 16 Ni Cr2 Mo20, 37 Si2 Mn90 or 37Mn2 of IS : 4367-1967† should be used.

3.2 Body and Links — Mild steel (*see* IS : 226-1975‡) should be used.

3.3 Spring — Spring steel wire [*see* IS : 4454 (Part 1)-1975§] should be used.

4. HARDNESS

4.1 The blade shall be heat treated to have a hardness of 425 to 450 HB (*see* IS : 1500-1968||) or equivalent Rockwell or Vickers hardness numbers.

5. SIZE

5.1 The size shall be declared by the manufacturer. The size shall not differ by more than 15 mm from the declared value.

6. DIMENSIONS

6.1 The dimensions of various components such as body, links, blade and spring shall be as given in Fig. 2. The tolerance on various dimensions, unless specified otherwise, shall be ±5 percent.

6.2 The diameter of wire for spring shall be 2 mm. The spring shall have 35 coils.

7. OTHER REQUIREMENTS

7.1 The blade of the pruner shall be suitably forged to shape and shall be annealed.

7.2 The blade shall be fitted in the body so that it can freely move when pulled with rope. The blade shall come back inside the body by the spring action.

7.3 In the closed position the cutting edge of the blade shall remain inside the body and shall not protrude.

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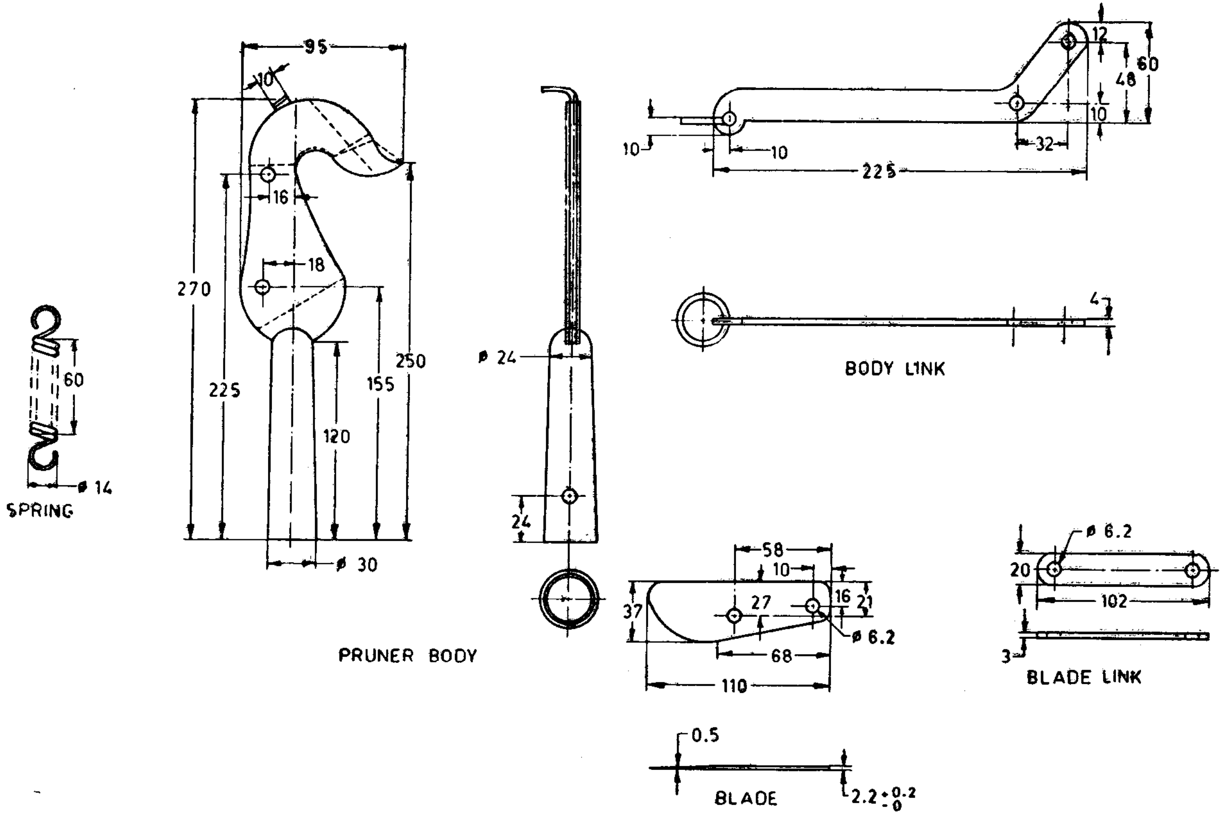
*Schedules for wrought steels for general engineering purposes: Part 2 Carbon steels (unalloyed steels) (*first revision*).

†Specification for alloy and tool steel forgings for general industrial use.

‡Specification for structural steel (standard quality) (*fifth revision*).

§Specification for steel wires for cold formed springs: Part 1 Patented and cold drawn steel wires — unalloyed (*first revision*).

||Method for Brinell hardness test for steel (*first revision*).



All dimensions in millimetres.

FIG. 2 DIMENSIONS OF TREE PRUNER

7.4 A circular ring shall be provided for tying the rope with the pruner.

7.5 A hole shall be provided for proper fixing up of the handle with the socket of the body.

8. TESTS

8.1 The pruner shall be tested by cutting not less than 20 samples of grafts, not exceeding 12 mm in diameter, of citrus, gauva, mango or apple suitably prepared in green condition. The cut on the bark shall be clean.

8.2 The spring shall meet the tests given in **6.5.1** to **6.5.4** of IS : 10134-1982*.

9. WORKMANSHIP AND FINISH

9.1 The cutting surface of the blade shall be ground in a direction, preferably, at right angle to the cutting edge. The blade shall be puffed to give a fine finish. The cutting edge shall be sharp enough for immediate use. All the sharp edges, except the cutting edge shall be rounded.

9.2 The blade shall be free from cracks, seams, pits, burrs and other visual defects.

9.3 The blade of the pruner shall be smeard with suitable mineral jelly as a rust preventive treatment.

9.4 The complete body of the pruner shall be painted.

9.5 The welding of the pruner body and the socket for handle shall be suitably ground to give a smooth finish.

10. MARKING AND PACKING

10.1 The following particulars shall be stamped on the body of the pruner:

- a) Manufacturer's name or recognized trade-mark,
- b) Size, and
- c) Batch or code number.

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*Methods of test for manually operated sprayers.

10.1.1 Each pruner may also be marked with the ISI Certification Mark.

Note — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act, and the rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers, or processors, may be obtained from the Indian Standards Institution.

10.2 Packing — The pruner shall be packed, as agreed to between the purchaser and the supplier, for safe handling in transit.

11. SAMPLING FOR LOT ACCEPTANCE

11.1 Unless otherwise agreed to between the purchaser and the supplier, sampling of the pruner for lot acceptance shall be done in accordance with 3 of IS : 7201-1974*.

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*Method of sampling of agricultural machinery and tractors.